

DESCRIPTION OF *SIGARETUS?* *DREWI*, n.sp. (FOSSIL), AND  
*CIRSONELLA?* *NEOZELANICA*, n.sp., FROM NEW ZEALAND;  
 WITH NOTES ON SOME NEW ZEALAND LAND MOLLUSCA.

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PLATE XVI.

1. *SIGARETUS?*<sup>1</sup> *DREWI*, n.sp. Pl. XVI, Fig. 1.

Shell large, subglobose, ornamented with close, delicate, slightly undulating spiral lines, a somewhat stronger riblet at irregular distances; whorls 5, spire small, the whorls slightly rounded, first two polished, body-whorl large and rounded; aperture ovate, a little produced anteriorly; columella slightly curved, callous and reflected, almost concealing the narrow chink-like umbilicus, outer lip thin. Length 39, breadth 34 mm.

*Form and Loc.*—Pliocene, sand and blue clay: Wanganui (Drew).

*Type.*—Wanganui Museum.

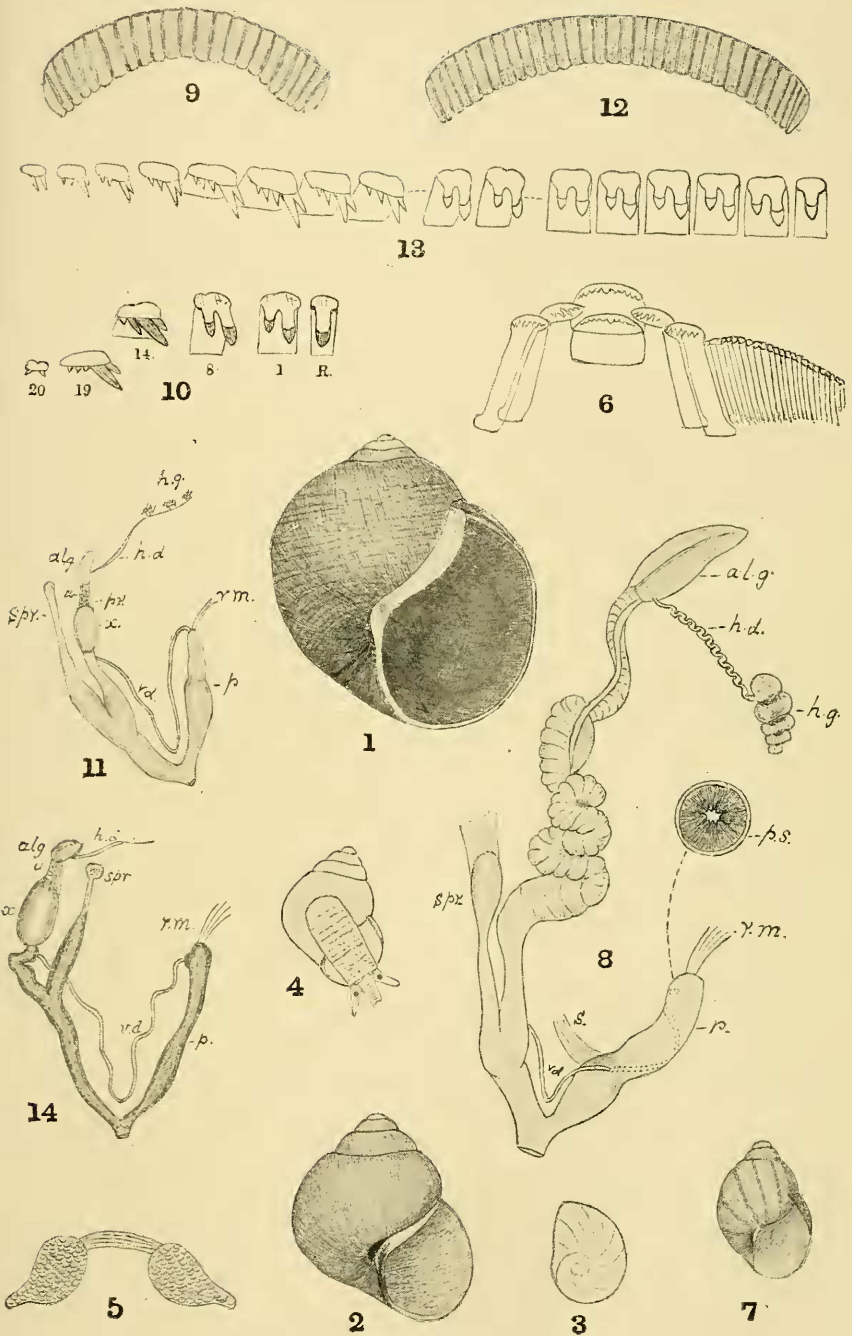
This species differs from *S. undulatus*, Hutton,<sup>2</sup> in its larger size, stouter shell, and less anteriorly produced aperture; in sculpture they are much alike. I name the species after my friend Mr. S. H. Drew, Hon. Curator, Public Museum, Wanganui, who, by systematic collecting, has added much to our knowledge of the Pliocene fossils of this district.

2. *CIRSONELLA?* *NEOZELANICA*, n.sp. Pl. XVI, Figs. 2-6.

Shell small, ovate, perforate, periostracum very thin, horny-fuscos; whorls 5, smooth, spire small, with the apex slightly eroded, the whorls somewhat rounded, the last about three-fourths of the total length and rounded, under an inch objective it is seen to be finely striate with growth-lines; sutures well marked; aperture ovate, somewhat oblique, columella thickened and slightly reflected, outer lip thin and simple; a callus extends from the insertion of the outer lip to the columella, partially concealing the narrow umbilicus; operculum horny, consisting of about two rapidly increasing whorls. Length 2.75, breadth 2.3 mm.

<sup>1</sup> [In attributing this shell to the genus *Sigaretus* the author has evidently followed Hutton, and owing to the impossibility of communicating with him in time for publication we have left it so, merely adding a 'f,' but it is evidently nearer to *Ampullina*.—ED. MALAC. SOC.]

<sup>2</sup> Trans. New Zealand Inst., vol. xvii (1885), p. 318, pl. xviii, fig. 11: for a better figure see Macleay Memorial Vol. (Linn. Soc. New South Wales), pl. vii, fig. 41.





*Hab.*—*North Island*: Inner Harbour, Napier. Found in considerable numbers around the margin of a brackish pool (F. Hutchinson, jun.).

*Type.*—Wanganui Museum.

*Animal* (Fig. 4).—Foot comparatively large, flat, and undivided; tail abruptly rounded; head produced into a retractile muzzle, emarginate anteriorly; tentacles of medium length, expanding and uniting at the base so as to conceal the posterior portion of muzzle, eyes immersed and situate in the lower half of tentacles; colour whitish throughout.

*Jaws* (Fig. 5).—Forming two irregularly ovate objects united by a narrow band, they are dark in colour, and the surface, as it were, imbricate with scale-like markings.

*Dentition* (Fig. 6).—Has the formula 23-2-1-2-23, in numerous transverse curved rows, the rachidian short and broad, with eleven minute cusps; the laterals elongated, with the apex somewhat expanded and curved inwards, the first armed with six or seven, the second with seven or eight minute denticles; uncini about twenty-three, having a single rounded cusp, and becoming shorter as they proceed outwards.

It is with some hesitation I refer this species to *Cirsonella*, Angas; a genus founded on shell characters only (Proc. Zool. Soc., 1877, p. 38), and created for the reception of *C. Australis*, Angas. There is no family, to my knowledge at least, in which it may be included; the dentition of *C. Neozelanica* seems nearest to that of the Cyclostrematidæ, and I provisionally place it near that family. The investigation of nearly allied forms will doubtless pave the way to a more satisfactory classification.

My thanks are due to Mr. H. Suter, of Christchurch, who, by letter, has given me much kindly assistance. .

### 3. ENDODONTA (THAUMATODON) TAU (Pfr.).

*Helix tau*, Pfeiffer: Malak. Blätt., Bd. viii (1862), p. 148; Mon. Helic. Viv., vol. v, p. 159.

*Helix tau*, Pfr.: Hector, Cat. Land Moll. New Zealand, 1873, p. 12.

*Patula timandra*, Hutton: New Zealand Journ. Sci., vol. i (1883), p. 475; Man. New Zealand Moll., 1880, p. 8; Trans. New Zealand Inst., vol. xvi (1883), pp. 175 and 192.

*Endodonta varicosa* (Pfr.): Suter, Trans. New Zealand Inst., vol. xxvi (1894), p. 128, pl. xv, fig. 12.

*Endodonta timandra* (Hutt.): Suter, loc. cit. and pl. xv, fig. 13.

*Patula* (*Endodonta*) *timandra*, Hutt: Pilsbry, Man. Conch., ser. II, vol. viii, p. 84, pl. xxiv, figs. 21-23.

The identification of *Helix tau*, Pfr., has hitherto been most doubtful. At the suggestion of Mr. Suter, of Christchurch, I communicated with Dr. Rudolf Sturany, of the Hofmuseum, Vienna, who very kindly sends the following report, and also mentions that the whole of Pfeiffer's collection has been purchased by Dr. Dohrn,

of Stettin, and presented to the museum of that city, and through Dr. Dohrn's kindness he obtained the loan of type-specimens.

"The two original examples of *Helix tau*, Pfr., forwarded to me for examination contain within the mouth three deep inward running lamellæ, in a similar position to *E. timandra*, Hutton, and much remind me of that species. This important feature is not mentioned in Pfeiffer's original description; otherwise, his description agrees exactly with the examples"

The description of the sculpture of *E. tau* agrees equally well with *E. timandra*, and they are doubtless one and the same species, being the only known New Zealand form possessing three teeth in the aperture.

*Hab.*—*North Island*: Auckland, Howkiwi, Thames, Wangarei, Mt. Wellington, Pirongia Mt., Hawkes Bay, Forty-mile Bush, Wellington, Kaponga, Altham. *South Island*: Kenepuru.

#### 4. ENDODONTA (CHAROPA) MUTABILIS (Suter).

*Patula mutabilis*, Suter: Trans New Zealand Inst., vol. xxiii (1891), p. 84, pl. xvi, figs. 2, *a*, *b*, *B*, *C*.

*Charopa mutabilis*, Suter: Hedley & Suter, Proc. Linn. Soc. New South Wales, ser. II, vol. vii (1893), p. 656.

*Charopa tau* (Pfr.): Suter, Proc. Linn. Soc. New South Wales, ser. II, vol. viii (1894), p. 499 (*non* Pfeiffer).

*Patula (Charopa) mutabilis*, Suter: Pilsbry, Man. Conch., ser. II, vol. viii, p. 101, pl. xix, figs. 25–27.

Dr. Sturany's report on *H. tau*, Pfr., clears up the position of this shell, which had been referred to that species.

*Hab.*—*South Island*: Hooker Valley (Suter), Castle Rock, Southland.

#### 5. FLAMMULINA (PHENACOHILIX) PILULA, Reeve.

Pl. XVI, Figs. 9–11.

Since there is no published description of the anatomy of this species, I offer the following note. The external features of the animal are, briefly, a narrow undivided foot, supra-pedal grooves, and caudal mucous pore, the last-mentioned surmounted by a small papilla. The mantle is a little anterior, with an even margin, and scarcely reflected over the peristome of the shell.

*Jaw* (Fig. 9).—Arcuate, composed of about twenty-three narrow plates, slightly overlapping at the sides and indenting the lower concave margin.

*Dentition* (Fig. 10).—Has the formula 20–1–20, or 7–13–1–13–7, in transverse, nearly straight rows; length of rachidian tooth rather more than twice its breadth, reflection large, without side cusps; laterals nearly twice as wide as the rachidian, and armed with two strong cusps having a meso- and an ectocone, the former being the larger; passing outward, the teeth gradually assume a sloping position, the

ectocoene increasing somewhat in length; marginals with numerous denticles, a small and a large point forming, as it were, a double denticle on the inner side of each tooth, except the last, which is bidentate.

*Genitalia* (Fig. 11).—The penis (*p*) is comparatively large and long, the upper half more slender, with the vas-deferens (*v.d.*) and retractor muscle inserted at the apex. The hermaphrodite gland (*h.g.*) consists of several small clusters of follicles imbedded in the liver; albumen gland (*al.g.*) large. The most interesting feature is a small sack-like lobe (*x.*), which partly envelops the uterus; it rises from the upper part of the free tube of the oviduct, passes upwards as a blind sack with the prostate branching from the side; the vas-deferens enters the wall of the oviduct a little below its base; whether it is a peculiar enlargement of the prostate or not, I have been unable to determine, but propose to give a more detailed description in a future paper (it appears to be a characteristic feature in *Laoma*, *Flammulina*, and *Endodonta*); the spermatheca (*spr.*) branches from the oviduct about midway between the enveloping lobe and genital cloaca, it is long and tapering, terminating above in a small oval-shaped sack.

#### 6. FLAMMULINA (PHENACOHILIX) LUCETTA (Hutton).

Pl. XVI, Figs. 12-14.

*Patula lucetta*, Hutton: Trans. New Zealand Inst., vol. xvi (1884), p. 192.

*Helix* (*Patula*) *Stokesi*, Smith: Proc. Zool. Soc., 1884, p. 275, pl. xxiii, figs. 17-17*b*; Tryon, Man. Conch., ser. II, vol. iii, p. 262, pl. xxii, figs. 48-50.

*Helix lucetta* (Hutt.): Tryon, Man. Conch., ser. II, vol. iii, p. 22, pl. iii, figs. 7-9.

The investigation of the jaw and dentition of this species proves that it is not an *Endodonta*, as referred in recent classifications. Capt. Hutton originally described it as *Patula lucetta*; the name first appears on p. 162, Trans. New Zealand Inst., xvi, with a description of animal, jaw, and dentition, including a figure of the latter and brief note on the shell. This reference cannot apply to the true *P. lucetta*, the jaw and dentition seem not unlike *Charopa coma*, Gray, and in all probability should be referred to the var. *globosa*, Suter, of that species. The error might readily occur, since the shell and colour pattern of certain forms of *C. coma* very much resemble *Flammulina* (*P.*) *lucetta*. The type-specimens of the latter are preserved in the Canterbury Museum, New Zealand.

The animal has the characteristic supra-pedal grooves, a narrow foot, and caudal mucous pore with small papilla.

*Jaw* (Fig. 12).—Consists of about thirty-three narrow plates, slightly overlapping at the sides, and indenting the concave margin; under a high power they are seen to be strengthened by transverse wavy striae.

*Dentition* (Fig. 13).—Has the formula 26-1-26 or 8-18-1-18-8, varying from 7-17-1-17-7, in numerous transverse, nearly straight